



USB μ Module Transceiver Protects Systems with 7500V_{RMS} of Galvanic Isolation

MILPITAS, CA – November 22, 2016 – Linear Technology Corporation introduces the [LTM2894](#), a USB μ Module[®] (micromodule) reinforced isolator that guards against ground-to-ground voltage differentials and large common mode transients. A rugged interface and internal isolation makes the LTM2894 ideal for systems implementing USB in harsh industrial or medical environments where protection from high voltages is required. The LTM2894 separates grounds by isolating a pair of USB signal transceivers using internal signal isolation, providing 7500V_{RMS} isolation plus superior common mode transient rejection of greater than 50kV/ μ s. Able to withstand up to 1000V_{RMS} continuously, the LTM2894 also provides 17.4mm of creepage, a separation distance that allows medical equipment, per IEC 60601-1, to operate from mains voltages greater than 250V_{RMS} while satisfying two means of patient protection.

The LTM2894 is ideal for use in a wide variety of USB hub, host and bus isolation applications. The ± 20 kV ESD-protected transceivers operate at USB 2.0 full speed (12Mbps) and low speed (1.5Mbps), while a suspend mode monitors for inactivity and reduces V_{BUS} current to less than 2.0mA. Integrated downstream facing pull-down resistors and upstream facing pull-up resistors are automatically configured to match the speed of the downstream device, enabling the LTM2894 to monitor and report bus speeds to the host. The LTM2894 requires no external components and is a complete μ Module solution for isolated USB communications.

The LTM2894 is available in a compact 22mm x 6.25mm surface mount BGA package; all integrated circuits and passive components are housed in this RoHS-compliant μ Module package. The LTM2894 is available in commercial, industrial and automotive versions, supporting operating temperature ranges from 0°C to 70°C, –40°C to 85°C and –40°C to 125°C, respectively. Pricing starts at \$12.20 each in 1,000 piece quantities. The LTM2894 joins a family of μ Module isolators that include isolated RS485, RS232, SPI, I²C, CAN and GPIO. Please visit www.linear.com/product/LTM2894 for product selection and information.

Photo Caption: Isolated USB 2.0 Transceiver Provides 7500V_{RMS} Isolation


Summary of Features: LTM2894

- Isolated USB Transceiver: 7500V_{RMS} for 1 Minute
- USB 2.0 Full Speed & Low Speed Compatible
- Auto-Configuration of USB Bus Speed
- 4.4V to 36V V_{BUS} and V_{BUS2} Operating Range
- 3.3V LDO Output Supply Signal References: V_{LO}, V_{LO2}
- 50kV/ μ s Common Mode Transient Immunity
- \pm 20kV HBM ESD on USB Interface Pins
- 1414V_{PEAK} Maximum Continuous Working Voltage
- 17.4mm Creepage Distance
- 22mm x 6.25mm BGA Package

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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